Environment Management and Trust in Government in China

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Abstract

This paper examines the relationship between Chinese people's evaluation about their government. Studies on China’s air pollution have made a significant breakthrough since the 2010s. In the recent development, many scholars focus on how the grievances about environmental pollution have gradually empowered Chinese people to act against the government’s infrastructure projects. We conclude that environment management in particular and the quality of life in general is important in explaining Chinese people's evaluation about their governments, both central and local.
INTRODUCTION

This paper examines the relationship between environment management and people's evaluation of their government as well as the preference for political institutional reforms in China. We first use the survey question about the status of environment protection. In addition, studies on China’s air pollution have made a significant breakthrough since the 2010s. In the recent development, many scholars focus on how the grievances about environmental pollution have gradually empowered Chinese people to act against the government’s infrastructure projects. The research on the impact of pollution on regime support, however, has been hindered by limited historical pollution data. To solve the problem, this paper uses the satellite Aerosol Optical Depth (AOD) observations to estimate surface PM2.5 concentrations in each Chinese city and county. This data is shown to correlate with PM2.5 exposure and hence is useful to identify the level of air pollution in China, while the official air quality data revealed by the Chinese government are often fraught with measurement problems.

To have a grasp of Chinese people’s attitudes toward their government, we take advantage of the newly compiled data by the Wave 4th China national survey of Asian Barometer (conducted from December 2014 to June 2016). The ABS dataset asks directly whether individuals are satisfied with the current political system. In addition, it asks about citizens’ evaluation of the services provided by the local government. We expect that in localities where a high level of PM 2.5 concentrations is detected, the respondents of the Survey tend to be less satisfied with the local government’s performance. At the same time, the demands for political institutional reforms are also shown to be affected by the quality of air.

Support for Democracy as a General Idea
Satisfaction with how democracy works is often considered as a specific support for democracy. Others argue that satisfaction with democracy is more likely to be sensitive to different context and to be influenced by short-term situations. Therefore, it is not an appropriate measure for the support of democracy as a system but how democracy works in practice (Linde and Ekman 2003). It is somewhat less clear for the meaning of SWD in the hybrid regime and authoritarian regimes. It is best to be understood as people’s general assessment of the function of the political system. Even the electoral authoritarianisms and authoritarian regimes like to call themselves democracy. People under these regimes tend to answer the SWD question by referring to their political system.

For factors affecting satisfaction with the performance of democracy, the often cited factors include institutional performance (Wagner, Dufour, and Schneider 2003; McAllister 2005) and institutional outputs (McAllister 1999; Sarsfield and Echegaray 2005, Huang, Chang, and Chu 2008). Huang, Chang, and Chu (2008) find that democratic quality such as rule of law, vertical and horizontal accountability, and government responsiveness is significantly associated with the SWD. Among institutional outputs, human capital, health conditions, and macroeconomic performance all have significant impacts on democratic satisfaction (McAllister 1999). Poor economic performance tends to undermine support for incumbent governments and then erode confidence in democratic institutions. Among the macro-level economic factors, income inequality is another significant predictor of democratic assessment. Higher income inequality is associated with lower level of satisfaction (Anderson and Singer 2008; Schäfer 2013). While the socio-tropic economic conditions are important for evaluating democratic performance, an individual’s own pocketbook also matters. People who perceive their material interests as faring significantly worse than others are more likely to be disappointed.
with the democratic system (Wagner, Dufour, and Schneider 2003).¹

The measurement for diffuse support of democracy is more diverse. As Magalhães (2014) suggested, the operationalization of diffuse support for democracy in the survey studies include three approaches: explicit support for democracy, rejection of autocracy, and comparison of the effectiveness of democracies and authoritarian regimes. Looking into the wording, we know that questions related to explicit support for democracy and comparison of the effectiveness use pure abstract idea of democracy. They all contain the term-democracy, rather than refer to specific liberal institutions. The measurement for the rejection of autocracy mixes both abstract idea of democracy such as having a democratic political system and specific institution such as abolishing parliament and election. Despite the divergent approaches to measure the diffuse support for democracy, the existing study of democratic support mainly frames the democratic support as an abstract concept rather than focusing on a set of democratic institution reforms. The term democracy, however, may mean different things in different regimes. Citizens do not necessarily relate the liberal institutions to what democracy means. In particular, many authoritarian regimes in this region claim their form of government to be democracy. This tends to confuse some people, making people buy into the propaganda that political system in their country is democracy by refining what it means to be democracy. By contrast, the meaning of individual liberal institution is less likely to carry divergent meaning in democracies and authoritarian regime. With higher level of travelability, the preference for liberal democratic institutions provides better foundation to make cross-country comparison.

¹ Some scholars indicate the mediating role of institutions. Anderson and Guillory (1997) link political institutions and SWD. They argue that the SWD gap between winners and losers are smaller in consociational system than in majoritarian system. Ruiz-Rufino (2013) indicated in ethnically divided countries, political institutions that encourage the representation of ethnic minority can increase SWD.
In East Asia, support for democracy is greatly derived from what they mean by democracy with a focus on output side of political system rather than on the procedural side (Chu, Diamond and Nathan and Shin 2008; Chang, Chu and Welsh 2013; Magalhães 2014). Since East Asians highly regard the quality of governance as the source of regime legitimacy. With rising grievances towards income inequality, handling economic inequality is gaining more and more importance on the bucket list for delivering good governance.

**Pollution, Fairness, and Support for Democracy**

One important social account of democratization emphasizes the interests of social class. Upper and upper-middle class enjoy vested interests in the authoritarian regimes, they are not very enthusiastic about democratic reform (Lipset 1960; Rueschemeyer et al. 1992). In the 19th century, once they gain the voting right, they are not enthusiastic about expanding the rights to the working class. In many cases in the 19th and 20th centuries, the middle class often work with the dictators to maintain the status quo. Instead, it is the working class and petty bourgeois who face unfavorable economic conditions push for democratic reforms (Therborn 1977; Luebbert 1991; Rueschemeyer et al. 1992). One core reason that working class fought for democratic reforms is the sense of unfairness. First of all, lack of political rights is a strong symbol of unfairness. More importantly, it is the poor working conditions and lack of opportunity of the poor that induce them to demand reforms.

We argue that perceived environment performance could influence support for political institutions. Following a similar logic, environment degradation is likely to be associated with lower trust in government and greater demand for institutional reforms. People who perceived environment degradation in their neighborhood are likely to think they are the direct victims of economic development. While other
people enjoy the fruit of fast economic development, people live in the industrial districts have to suffer the negative effect of industrialization. This disaffection generates a sense of unfairness among people who live in the polluted area.

In addition, persistent pollution and poor enforcement of environment law in China is usually the result of close relationship between local governments and enterprises. The polluting enterprises generate large amount of tax and revenues and hire many people. Local governments dare not punish the polluting enterprises. In addition, many cases local officials receive bribe from the enterprises and become wealthy. The local government leaders prioritize economic growth and jobs creation, which is closely related to their promotion. Many local government often view the victims of pollution as the enemy and try many ways to keep them in bay. Moreover, the courts are controlled by the executive branch, so their decisions usually align with the polluting enterprises and favor the polluting companies. As more and more people experience the pollution because of the wide spread of smog in the air and pollution in rivers, lakes, and soil, and the media coverage of polluting events, more and more people are disaffected with injustices involved in the government-polluters relationship.

It must make clear that environmental degradation may include two distinct types of issues. The first one is pollution that is the result of industrial production, mining, and urban traffic. This type of environment issue directly damage people's health and property. The second type of environment issue concerns the destruction of ecosystems that may include habitat lose, the extinction of wildlife, and depletion of nature environment. This type of issue in general does not directly influence people's life. Compared to the general ecological issues, pollution is likely to be more directly associated with sense of unfairness and thereby has greater political implication.

In the context of China, the main discussion in the media about environment
protection focus more on controlling and punishing pollution and less on protecting ecosystems. In 2014, China revised its environmental protection law after 25 years of its promulgation. The goal of the amendment is to strengthen the power of environmental authorities in attacking pollution. The new amendment removes limit on fine on the polluters. It also give local government the power to detain the head of the companies for a period of time if they bypass environmental impact assessments or continue to emit polluting materials after repeated warnings. Similarly, in recent years, China emphasizes the importance of environmental protection, but the main target is pollution. In the opening of the annual meeting of National People's Congress in 2014, Premier Li Ke-qiang said "China is to declare war on pollution". Thus, it shows that in contemporary China, when people talk about environment issue, in most cases they are referring to pollution.

The sense of unfairness is likely to have two direct political implications. First, the disaffected people are more likely to distrust the government. They think the government hides important information from them. When there are important pollution events, governments, in authoritarian regimes in particular, always try to block information or downgrade the severity of the events. In addition, people tend to think that the underlying reason of this structure is that government officials violate the law and abuse power, and engaged in corruption practice. Actually, there are environment laws in place. When it comes to enforcement, it is rather weak. Government officials often do not follow the law and allow the polluters to begin producing or remain in place. Moreover, it is often because of the closed connection between government officials and polluters that allow the polluting sources to remain in place. The direct result is that feeling of unfairness due to pollution is likely to reduce people's trust in the government.

The remaining question is which level of government is likely to blame. In the
case of China, with its sheer size, it is local governments that are responsible for environment protection. We can compare the perceived responsibility of several public policy issues. ABS show that more than sixty percent of respondents believe that local government must take the main responsibility in managing the environment, while a majority of people think the central government is responsible for managing the economic development and income distribution.

Second, a sense of unfairness due to pollution may induce people to demand institutional reform to address the polluting problems. Many people may not fully understand the concept of liberal democracy, but they are very likely to welcome reform in the area of media freedom, check on the executive, multi-party competition, competitive election, and multi-party competition. These reforms can empower the disadvantaged people. The disaffected people are likely to demand greater independence of mass media to reveal the unfairness and injustice of pollution and the corruption practice that unfairly enrich some government officials. Great check on the executive can reduce the discretion of the government. Multi-party competition can reduce the rent the local officials enjoy.

It is always likely that some liberal democratic values induce people to be critical of the authoritarianism. The same liberal-minded people are likely to think government officials are corrupted, the political system is not democratic, government did a poor job in protecting the environment. When examining the effect of environment management on thrust in government, one can include the battery of questions about liberal democratic values as a control for such liberal political value. In addition, perceived poor economic performance and highly unequal distribution of income is also likely to induce people to be more critical of the function of government and to lower their trust in the governments. Thus, we also control for the perceived performance of government in managing economic development and
income equality. For models with preference for democratic reforms as the dependent variables, we have an endogenous relationship between liberal democratic values and polluting management.

We construct a variable measure liberal democratic value by taking average a battery of related questions. They include government leaders are like the head of a family; we should all follow their decisions; when judges decide important cases, they should accept the view of the executive branch; harmony of the community will be disrupted if people organize lots of groups; the government should decide whether certain ideas be allowed to be discussed in society; If the government is constantly checked [i.e. monitored and supervised] by the legislature, it cannot possibly accomplish great things; if we have political leaders who are morally upright, we can let them decide everything; When the country is facing a difficult situation, it is ok for the government to disregard the law in order to deal with the situation; if people have too many different ways of thinking, society will be chaotic; a citizen should always remain loyal only to his country, no matter how imperfect it is or what wrong it has done.

Using the perceived performance environment protection is not able to avoid the problem of endogenous in discussing preference for democracy. One way to address this problem is to use real air pollution indicators measured by various observatories across China. Studies on China’s air pollution have made a significant breakthrough since the 2010s. In the recent development, many scholars focus on how the grievances about environmental pollution have gradually empowered Chinese people to act against the government’s infrastructure projects. The research on the impact of pollution on regime support, however, has been hindered by limited historical pollution data. To solve the problem, this paper uses the satellite Aerosol Optical Depth (AOD) observations to estimate surface PM2.5 concentrations in each Chinese
city and county. This data is shown to correlate with PM2.5 exposure and hence is useful to identify the level of air pollution in China, while the official air quality data revealed by the Chinese government are often fraught with measurement problems.

The advantage of the second indicator is that it is exogenous, so it is unlikely to be correlated with some intrinsic values such as liberal democratic values. The problem of this indicator is that it has quite large variation in its value across different dates each year and there is the spill-over effect across jurisdictions. More importantly, it is a single indicator that measure only air pollution. It does not cover other types of pollution such as river and soil.

RESEARCH DESIGN

Data

We use the 4th wave Asian Barometer Survey (ABS) data to test the hypotheses that perceived fairness of income distribution is determinant to the support for democracy in East Asia. From 2014 to 2016, the ABS survey is conducted in 14 East Asian countries including Japan, South Korea, Mongolia, China, Taiwan, Hong Kong, Vietnam, Cambodia, Myanmar, Thailand, Singapore, Malaysia, Philippines and Indonesia.

Dependent Variable

The dependent variables include three parts. The first part examines the evaluation of how the political system work and whether people want to remain in the system. This part include “On the whole, how satisfied or dissatisfied are you with the way democracy works in the country?” and “Would you say our system of government works fine as it is, needs minor change, needs major change, or should be replaced?” The next two parts is about the support for democracy on the conditions of democracy
is framed either as a general idea or a collection of liberal institutions. When democracy is framed as a general idea, East Asians are hypothesized to detach the perceived fairness of income distribution from their support for democracy. For support for democracy being framed as a general idea, questions could include “Democracy is always preferable to any other kind of government” and "Democracy may have its problems, but it is still the best form of government".

For democracy being framed as a collection of liberal institutions, respondents are exposed to questions with regard to the support for a set of liberal institutions consequential to the function of democracy to replace the term of democracy. In this paper, we identify four democratic institutions, including media freedom, check on the executive, multi-party competition, and competitive election. Regarding the support for media freedom, we propose the question: "the media should have the right to publish news and ideas without government control". For multi-party competition, we use the question: "only one political party should be allowed to stand for election and hold office. Next, we examine the support for competitive election for selecting political leaders. The question is that "Political leaders are chosen by the people through open and competitive elections." For the check on the power of the executive, we ask a set of questions about the institutions that are set to check the power of the government. They collectively measure to what extent the power of the executive branch should be constrained and supervised by the civil society groups, legislature, and judicial sector. The first question is "If the government is constantly checked [i.e. monitored and supervised] by the legislature, it cannot possibly accomplish great things". It concerns the legislative supervision. The second question is "When judges decide important cases, they should accept the view of the executive branch" This question capture the attitude toward judicial independence. These two questions concern the check on the executive branch by the other two government branches.
The other two questions concern the capacity of the private sector in checking the power of the government. They include "The government should decide whether certain ideas should be allowed to be discussed in society" and "Harmony of the community will be disrupted if people organize lots of groups". The former question concerns freedom of speech and latter one concerns freedom of association. By treating the concept of democracy as a general idea and as a collection of liberal institutions, we manage to differentiate how East Asians vary in their attribute of the perceived fairness of income distribution to the support for democracy.

*Independent Variable*

The independent variable include our country’s performance of in environment protection, our country’s performance of in economic development, and our country’s performance of in income distribution.

*Controls*

Our models also contain a series of control variables relevant to the support for democracy. With regard to economic assessment, we include micro-level measures for economic status in individual level (monthly household incomes in a 5-stage ladder) and national level (5 conditions for national economy from much better, a little better, about the same, a little worse, much worse). In addition to micro-level measures, the models gauge several macro-level measures such as GDP for national income and Gini coefficient for income distribution. As a common practice, a set of demographic variables such as gender, age, and levels of education is covered.

*Model Specification*

On the account that the dependent variables are continuous and micro-level
variables and some controls are macro-level variables, we use the hierarchical linear models (hereafter HLM) (also known as multi-level models) when all fourteen East Asian countries are pooled to present the general trend in East Asia. For each country, we drop out the macro-level variables and run the ordinary least square (OLS) regression models to check if the predicted relationships still hold in the individual country sample.

**EMPIRICAL RESULTS**

In Figure 1, we show the confidence interval of each estimated coefficient. Those coefficients whose confidence interval include zero are not significant. It demonstrates the relations between environment management assessment and whether government officials hide important information from people. People who perceived better environment management is significantly less likely to think that government officials hide important information. In China, economic growth and income inequality is often considered the most important issues affecting the perceived government performance. Here we show that environment management plays an equally important role.
In Figure 2, we show the relations between environment management assessment and government abuse power. People who perceived better environment management is significantly less likely to think that government officials abuse power.
In Figure 3, we show the relations between environment management assessment and the trust in central government. People who perceived poor environment management is significantly less likely to trust central government.
In Figure 4, we show the relations between environment management assessment and the trust in local government. People who perceived poor environment management is significantly less likely to trust local government.

In Figure 5, we show the relations between environment management assessment and the perceived corruption of central government officials. People who perceived better environment management is not significantly associated with their assessment of the corruption level of the central government officials.
In Figure 6, we show the relations between environment management assessment and the perceived corruption of local government officials. People who perceived better environment management is significantly less likely to believe that local government officials are corrupted.

Figure 7 shows the relations between government performance assessment and
the trust in central government. The government performance assessment includes various performance dimensions: defense (defense and foreign relation), economy (economic development and employment), income inequality, and life quality (environment protection, food safety, public health and medical care, secondary and elementary education). Among various performance indicator, life quality is the single most important predictor of trust in central government. Defense and foreign relation and inequality issues are also significant but economic issue is not.

**Figure 7 Government Performance and Trust in Central Gov't**

In Figure 8, we show the relations between government performance assessment and the trust in local government. For local government, among various performance indicator, life quality is also the single most important predictor of trust in government. Defense and economy issues are not significant. Inequality is slightly above the significance level.
Conclusion

We explore environment management and the evaluation of government. The results show that environment is the best predictor of hiding information, abusing power, trusting in central and local government and even believe that local government officials are corruption. The economic development issue is slightly above the significance level in predicting the trust in central government. The inequality issue plays a similar role as the environment issue. Rising inequality is likely to induce people to think governments hide important information, abuse power, lower their trust in local government, and believe that local government officials are corruption.

If we put environment management in a broader category of the quality of life, which may include environment management, food safety, public health and medical care, secondary and elementary education. We get a similar result. People care more about the quality of life than economic development that include economic development and employment.
REFERENCES


## APPENDIX

Table 1 Fairness of Income Distribution and Support for Democracy: Democracy as a General Idea

<table>
<thead>
<tr>
<th></th>
<th>(1) Satisfaction with Democracy</th>
<th>(2) Demand for System Change</th>
<th>(3) Democracy is always preferable</th>
<th>(4) Democracy is the best form</th>
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</thead>
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<tr>
<td>Perceived Fairness</td>
<td>0.224***</td>
<td>-0.025***</td>
<td>-0.231***</td>
<td>0.048***</td>
</tr>
<tr>
<td>(Societal)</td>
<td>(0.008)</td>
<td>(0.010)</td>
<td>(0.009)</td>
<td>(0.007)</td>
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<td>-0.013</td>
<td>-0.097***</td>
<td>0.047***</td>
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<td>(0.012)</td>
<td>(0.012)</td>
<td>(0.009)</td>
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<td>(0.011)</td>
<td>(0.010)</td>
<td>(0.008)</td>
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<td>-0.085***</td>
<td>0.063***</td>
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<td>(0.012)</td>
<td>(0.011)</td>
<td>(0.009)</td>
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<tr>
<td>Gender</td>
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<td>-0.010</td>
<td>-0.050***</td>
<td>-0.022**</td>
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<td>(0.013)</td>
<td>(0.012)</td>
<td>(0.010)</td>
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<td>(0.014)</td>
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<td>GDP(log)</td>
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<td>(0.016)</td>
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<tr>
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<tr>
<td></td>
<td>(0.198)</td>
<td>(0.429)</td>
<td>(0.366)</td>
<td>(0.182)</td>
</tr>
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</table>

| Observations            | 14961                          | 14514                       | 14644                             | 14688                         |
| R²                      | 0.139                          | 0.025                       | 0.113                             | 0.025                         |

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Table 2 Fairness of Income Distribution and Support for Democracy:
Democracy as a Collection of Liberal Institutions

<table>
<thead>
<tr>
<th></th>
<th>(5) Media Freedom</th>
<th>(6) Check on the executive</th>
<th>(7) Competitive Election</th>
<th>(8) Multi-party Election</th>
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<td>(0.011)</td>
<td>(0.007)</td>
<td>(0.011)</td>
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<td>-0.040***</td>
<td>-0.002</td>
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<td>(personal)</td>
<td>(0.016)</td>
<td>(0.014)</td>
<td>(0.009)</td>
<td>(0.013)</td>
</tr>
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<td>0.100***</td>
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<td>(0.015)</td>
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<tr>
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<td>-0.002</td>
<td>-0.019***</td>
<td>-0.044***</td>
</tr>
<tr>
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<td>(0.009)</td>
<td>(0.008)</td>
<td>(0.005)</td>
<td>(0.008)</td>
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<tr>
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<td>-0.013</td>
<td>-0.018***</td>
<td>-0.077***</td>
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<td>(personal)</td>
<td>(0.010)</td>
<td>(0.009)</td>
<td>(0.006)</td>
<td>(0.009)</td>
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<tr>
<td>Freedom House</td>
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<td>0.022***</td>
<td>-0.070***</td>
<td>-0.079***</td>
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<tr>
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<td>(0.033)</td>
<td>(0.005)</td>
<td>(0.010)</td>
<td>(0.005)</td>
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<tr>
<td>GDP(log)</td>
<td>-0.008</td>
<td>-0.012**</td>
<td>0.062***</td>
<td>-0.045***</td>
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<td>(0.034)</td>
<td>(0.005)</td>
<td>(0.011)</td>
<td>(0.004)</td>
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<tr>
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<td>0.000</td>
<td>-0.001</td>
</tr>
<tr>
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<td>(0.009)</td>
<td>(0.001)</td>
<td>(0.003)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Constant</td>
<td>3.105***</td>
<td>3.803***</td>
<td>1.289***</td>
<td>4.921***</td>
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<tr>
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<td>(0.898)</td>
<td>(0.136)</td>
<td>(0.282)</td>
<td>(0.110)</td>
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Observations 14444 14728 13505 13656

R² 0.043 0.164 0.015 0.1127

Standard errors in parentheses

*p < 0.10, **p < 0.05, ***p < 0.01